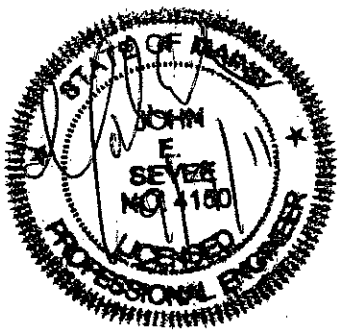
MAINE STATE PLANNING OFFICE

JUNIPER RIDGE LANDFILL EXPANSION

APPLICATION FOR A DETERMINATION OF PUBLIC BENEFIT

Submitted by:
NEWSME LANDFILL OPERATIONS, LLC,
as Operator
and
MAINE STATE PLANNING OFFICE,
as Owner

September 2011



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EXECUTIVE SUMMARY

NEWSME Landfill Operations, LLC (NEWSME), as operator of the Juniper Ridge Landfill in Old Town, Maine, under an Operating Services Agreement (OSA) dated February 5, 2004 with the State Planning Office (SPO), has prepared this Application for a Determination of Public Benefit (pursuant to 38 M.R.S.A. Sections 1310-N (3-A) and 1310-AA, and Chapter 400, Section 5 of the "Solid Waste Management Rules") on behalf of the SPO, the Landfill's owner. This application is submitted as a precursor to a Maine Department of Environmental Protection (MEDEP) solid waste license application to expand the existing Juniper Ridge Landfill (JRL, or Landfill) onto an adjacent approximately 143-acre area immediately north of the currently permitted Landfill on State-owned land. The Landfill Expansion Project will involve approximately 108 acres of additional landfill footprint and 35 acres of infrastructure (i.e., roads, sedimentation ponds, and the like). The Landfill Expansion Project will be developed in three separate phases and will also overlap approximately 28 acres of the existing landfill footprint.

The Expansion Project has already been identified by the State as critical to the success of Maine's solid waste management efforts. For example, when JRL's licenses were transferred by Georgia-Pacific to SPO in 2003, MEDEP issued a comprehensive License Transfer Order discussing, in relevant part, SPO's anticipated application for development of a horizontal expansion of the Landfill. The horizontal expansion would allow SPO and NEWSME to continue to provide for the disposal of certain pulp and paper mill and ash waste streams for a period of at least 30 years, in addition to providing disposal capacity for other Maine-generated non-hazardous waste streams, including construction and demolition debris (CDD) and CDD processing residues, residues (ash, front-end process, and oversized bulky wastes) generated by Maine's municipal solid waste (MSW) incinerators, MSW bypass from these incinerators in limited volumes, water/wastewater treatment plant sludge, and small amounts of miscellaneous, non-hazardous waste. In addition, the Expansion provides Maine municipalities a long-term, cost-effective, environmentally secure disposal option to consider in evaluating their long term disposal needs.

MEDEP expressly found in the 2003 Transfer Order that "the landfill will be operated to help address immediate, short-term and long-term capacity needs of the region and the State." In addition, the Expansion Project is expressly contemplated in the OSA pursuant to which SPO contracted with NEWSME to operate and develop the JRL. The OSA obligates NEWSME to "use its best and most diligent efforts" to apply for an Expansion Permit authorizing a horizontal capacity increase, and required NEWSME to prepare an application for the Expansion Project by February 2009. An expansion application was prepared by NEWSME, and reviewed by the SPO on January 30, 2009. That application was not submitted, however, when the statutory requirement for State-owned landfills to obtain a public benefit determination was enacted in the 124th Legislature.

More recently, the Solid Waste Generation and Disposal Capacity Report (Capacity Report) (Appendix A) prepared by SPO for the Joint Standing Committee on Natural Resources of the 125th Legislature (January 2011), which included State-wide data from calendar year 2009, found that Maine currently has 17.5 million cubic yards of permitted, available disposal capacity versus an estimated 24.4 million cubic yards of landfill capacity that will be required over the next 20 years to meet the disposal needs of the State of Maine. The report also found that, although Maine has sufficient disposal capacity through 2020, it currently cannot meet projected statewide needs for a 20-year outlook. This report goes on to state that "Maine needs to plan for developing new disposal capacity beyond 2020 in order to meet the waste management needs of the State's municipalities and businesses" and

> The largest single source of Maine's disposal capacity is the State-owned Juniper Ridge Landfill, which has capacity through 2017-2018. To avoid a shortfall in landfill capacity, the State needs to begin the application process for additional, State-owned, landfill capacity at that landfill in 2011. This timeframe takes into account the current economic slowdown, and the anticipated duration of the complete development process, from the initial preparation of the application for public determination, the permitting process, through construction of new capacity licensed and prepared to receive waste.[1]

[1] See Capacity Report, Projected Landfill Disposal Needs and Capacity, page 31.

SPO has concluded, based on its analyses of solid waste generation and disposal capacity in the 2011 Capacity Report and in the 2009 State's Waste Management and Recycling Plan (Plan) (Appendix B), that a JRL expansion is needed to meet the projected immediate, short- or long-term solid waste disposal needs of the State.[2] In addition, JRL is currently an integral part of Maine's solid waste management system on a local, regional, and state level and the proposed Expansion will continue to provide a needed resource to address the future waste disposal demands on all three levels.

Because the Expansion Project will meet the immediate, short-term, or long-term capacity needs of the State, it is consistent with the most recent (January 2009) Maine Waste Management and Recycling Plan, and is not inconsistent with local, regional or state waste collection, storage, transportation, processing or disposal, the Commissioner should conclude that the Expansion Project will provide a substantial public benefit in accordance with the 38 M.R.S.A. § 1310-AA(3).

[2] In accordance with statute, the Plan must identify "the need in the State for current and future solid waste disposal capacity by type of solid waste, including identification of need over the next 5-year, 10-year and 20-year periods." 38 M.R.S. §2123-A(4).

JUNIPER RIDGE LANDFILL EXPANSION
PUBLIC BENEFIT DETERMINATION
ATTACHMENT 1
PROJECT DESCRIPTION

1.0 SITE HISTORY AND BACKGROUND

1.1 History of Site Permits and Filings

The SPO is proposing to expand the Juniper Ridge Landfill (Landfill) located in Old Town through its selected operator, NEWSME Landfill Operations, LLC (NEWSME), whose sole member, New England Waste Services of ME, Inc., is a wholly owned subsidiary of Casella Waste Systems, Inc. (CWS). The Landfill, which was previously known and licensed as the "West Old Town Landfill," was originally owned and operated by Fort James (previously known as James River Paper Company), a subsidiary of Georgia-Pacific Corporation as a secure, non-hazardous, generator-owned, solid waste disposal facility.

SPO, the agency tasked with forecasting and assessing Maine's solid waste management needs, has viewed the expansion of the Landfill (Expansion Project), as a central component of the State's solid waste programs since 2003. In June 2003, the Maine Legislature passed Resolve 2003, c. 93, authorizing SPO to purchase the Landfill from Fort James, and to enter into agreements necessary to operate the Landfill. Following a competitive bid process, SPO selected CWS to be the long-term operator, subject to negotiation of mutually acceptable contract terms. On October 21, 2003, MEDEP issued License Transfer Order Nos. S-020700-WR-M-T and L-019015-TH-C-T, approving the comprehensive transfer to SPO of all licenses held by Fort James for the Landfill, conditioned on final conveyance of the Landfill and execution of an operating services agreement, among other matters. The Transfer Order states, in relevant part:

> Public Benefit: The landfill was licensed as a generator-owned landfill for the disposal of pulp and paper mill wastes from the Old Town Mill. It has also accepted boiler ash from the Lincoln Pulp and Paper Mill in Lincoln, Maine . . . and burn pile ash from the city of Old Town transfer station. These wastes are proposed to continue to be disposed after

> the State assumes ownership of the landfill for a period of at least 30 years. In addition, SPO will apply to the Department for approval to accept construction and demolition debris; municipal solid waste; municipal solid waste incinerator ash, oversized bulky waste, front-end process residue, and other solid wastes currently approved for disposal at Casella's Pine Tree Landfill in Hampden, Maine; it will also apply to increase the capacity of the landfill . . . [T]he capacity of the landfill is proposed to be increased in 2 parts: a vertical increase in the height of the currently licensed landfill footprint and a horizontal expansion of the landfill expected to be submitted to the Department within the next 5 years. *The Department finds that the landfill will be operated to help address immediate, short-term* ***and*** *long-term capacity needs of the region and the State.* (License Transfer Order, at 5-6 (emphasis supplied)).

On February 5, 2004, SPO and CWS executed the Operating Services Agreement (OSA) that establishes CWS's obligations and rights to operate the Landfill. Consistent with SPO's plans as described in the Transfer Order, the OSA provides, in Paragraph 4.2(b), "[CWS] shall use its best and most diligent efforts to, at its own cost and expense, apply for, seek and maintain in full force and effect . . . (ii) the Expansion Permit[3]. . ." (OSA, at 28.) In July 2006, SPO and CWS executed a First Amendment to the OSA that provides, "[CWS] shall prepare on or before the fifth anniversary of the Effective Data [sic] an application for the Expansion Permit . . ." (First Amendment to OSA, ¶ 1.)

In April 2004, the SPO obtained Amendment Order #S-020700-SD-N-A from MEDEP authorizing a vertical increase in the Landfill's disposal capacity to approximately 10 million cubic yards. The April 2004 permit also allowed for the disposal of non-hazardous waste streams generated in Maine, including construction and demolition debris and processing residues, residues (ash, front-end process, and oversized bulky wastes) generated by municipal solid waste (MSW) incinerators located in Maine; a limited amount of MSW bypass from the

[3] "Expansion Permit" is defined in the OSA as "any and all federal, state, local and other governmental permits, permit modifications, operation plan modifications, other modifications, statutory amendments and legislation, licenses, approvals, authorization or amendments necessary for the expansion of the Landfill beyond the licensed footprint as of the date hereof." OSA ¶ 1.16.

incinerators, water/wastewater treatment plant sludge; and smaller amounts of miscellaneous, non-hazardous waste.

In 2006, SPO filed a Preliminary Information Report (PIR) for the Expansion of the Landfill. The purpose of the PIR was to present sufficient information on the Expansion to enable the MEDEP to make a determination of the environmental feasibility of the Expansion, and to outline the scope of study for development of a full solid waste licensing application. After review of the PIR, on April 13, 2007, MEDEP found the site to be environmentally feasible for landfill development and issued a Determination of Environmental Feasibility for an approximate 22.4 million cubic yard Expansion based upon preliminary design of the facility. The final design capacity of the proposed Expansion, subsequent to the PIR submittal, is 21.9 million cubic yards (the expansion footprint was adjusted to reduce wetland impacts).

On January 30, 2009, SPO confirmed that NEWSME had complied with CWS's obligation under the OSA by preparing an application for the Expansion Permit. On November 16, 2009, the SPO submitted an Application for Public Benefit Determination (PBD) for the proposed expansion of the JRL to the MEDEP. The Application was withdrawn in January 2010 by SPO without prejudice to resubmit at a later date, an action joined by NEWSME as the operator of JRL.[4]

Subsequent to SPO's withdrawal of the November 2009 PBD application, there have been several meetings between the SPO, the MEDEP, and CWS where the contents of PBD application have been discussed. Due to the various factors which influence waste generation rates in the State, the MEDEP has indicated to SPO that any PBD would likely be conditioned to allow for periodic review of the Project's Public Benefit. The discussion focused on aligning these reviews with the three phases of the Expansion.

[4] SPO withdrew the application because the MEDEP had issued a draft denial, which presented a number of concerns as to the project's ability to meet the criteria for the approval. In a letter dated April 2, 2010, NEWSME provided the MEDEP with comments and responses on the draft denial addressing these concerns.

This application for a Determination of Public Benefit is the next step in the approval process for the Expansion Project.[5] The standards for this public benefit determination are set forth in 38 M.R.S.A. § 1310-AA and in Section 400.5 of the Solid Waste Management Rules. These provisions state that in order to find that this proposed facility provides a substantial pubic benefit, the Commissioner must find that:

A. The facility meets the immediate, short-term, or long-term capacity needs of the State;

B. The facility is consistent with the state waste management and recycling plan; and

C. The facility is not inconsistent with local, regional, or state waste collection, storage, transportation, processing, or disposal.[6]

These standards are addressed in the remaining sections and exhibits of this application.

1.2 Description of Current Waste Types and Disposal Rates at JRL

This section provides an overview of the types of material accepted at JRL and the yearly quantity of materials accepted at the landfill since 2004.

1.2.1 Description of Current Waste Types. Under the provisions of the OSA and the DEP landfill permit, JRL only accepts waste generated in Maine. These wastes include a variety of non-hazardous waste streams in addition to the waste materials generated in Maine that have historically been landfilled at the site (pulp and paper mill sludge and ash from Fort James and Lincoln Pulp and Paper mills). SPO proposes to continue disposal of these same waste streams, which are currently permitted to be disposed at the JRL and have been previously

[5] P.L. 2009, c. 348, which took effect on September 12, 2009, amended 38 M.R.S.A. § 1310-AA to provide that a Determination of Public Benefit is now required prior to an application to expand a solid waste disposal facility owned by the State. Before enactment of this law, State-owned facilities were exempt from this requirement.

[6] 38 M.R.S.A. § 1310-AA(3)(D) establishes a fourth criterion, applicable only to publicly owned landfills that accept waste generated outside Maine. This standard does not apply to the JRL, which accepts only Maine generated solid waste.

determined by the MEDEP to be non-hazardous. Current landfill operations at JRL have demonstrated that the wastes received for disposal are compatible with the proposed Expansion system designs, and with each other, as demonstrated by the existing JRL containment system design and the commingling of these waste streams at the existing JRL. In 2010, 620,856 tons of wastes were disposed in JRL. These materials consist of the following broad categories:

- WWTP and miscellaneous bio-solids / sludge materials (8.1 percent);
- Contaminated soils (1 percent);
- Front-End Process Residuals (FEPR) (17.7 percent);
- Municipal solid waste incinerator ash (14.8 percent);
- Biomass and fossil fuel combustion ash (3.7 percent);
- Municipal solid waste incinerator bypass and MSW bypass used in soft layer (5.6 percent);
- Construction demolition debris (CDD) (20.5 percent);
- Oversized Bulky Waste (OBW) (13.7 percent); and
- Miscellaneous waste[7] (2.6 percent).

In addition, 87,449 tons (12.3%) of CDD fines were used as alternate daily cover.[8] Under state statute (38 MRSA §1310-N B(2)), use of CDD fines as alternative daily cover is recycling.

Table 1-1 lists the specific wastes types which the facility has blanket permits to accept at the JRL.

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[7] Such wastes include spoiled food, oil debris, sand, waste grit, non-friable asbestos, etc.

[8] The JRL Annual Report reported 708,198 tons were accepted at the landfill in 2010 which included both wastes disposed and alternative daily cover or beneficial use materials. Alternative daily cover materials constitute an approved reuse of waste for purposes of daily cover; otherwise virgin soil (such as sand or gravel) must be used. DEP Regs. Ch. 401.4.C.8. The percentages shown represent percentage of the total tonnage placed in or on the landfill in 2010.

TABLE 1-1

SUMMARY OF WASTES ACCEPTED UNDER BLANKET PERMITS AT JUNIPER RIDGE LANDFILL

Ash Related Wastes	**Other Wastes**
Wood & Biomass Boiler Ashes	Sandblast Grit
Fossil Fuel Boiler Ashes	Asbestos (non-friable)
Clean Wood Open Burn Ashes	Leather Scrap Waste
Municipal Solid Waste Incinerator Ash	Dried Paint Residue & Related Debris
Biomedical/Veterinary Incinerator Ash	Construction & Demolition Debris
Burned RR ties & associated ash	Catch Basin Grit
Contaminated Soil and Debris	Air & Water Filtration Media
Gasoline Contaminated Soil & Debris (UST)	Approved Land Utilization Wastes
Gasoline Contaminated Soil & Debris Surface Spill	Front-End Process Residue (FEPR)
Waste Oil Contaminated (Oily Debris)	Oversized Bulky Wastes
Urban Fill-Type Soils & Debris	Pigeon Waste
Dredged Spoils From Waterways	Non-Hazardous Chemical Products
Virgin Petroleum Product Contaminated Debris	Municipal Solid Waste (by-bass & Soft Layer)
Sludges and Related Wastes	
Filter Press Cake & Collagen Scrapings	
Pulp & Paper Mill Sludge	
Public Waste Treatment Plant Sludge	
Commercial & Industrial Laundry Sludge	
Water Treatment Plant Sludge	

In addition to the above blanket waste streams, JRL accepts wastes individually permitted by the MEDEP. A separate listing that identifies the generator, type of waste, and JRL permit number may be found in Appendix C of this Application.

1.2.2 Yearly Quantity of Materials Accepted at the Landfill. The annual amount of material accepted at the JRL facility since its use as a State-owned landfill has ranged from approximately 54,000 tons/year (2004) to 708,000 tons/year (2010). The specific quantity of material accepted at the landfill between 2004 and 2010 is presented in Table 1-2.

TABLE 1-2

QUANTITY OF MATERIALS ACCEPTED AT JRL

Calendar Year	Tons of Material
2004	53,905[9]
2005	252,314[10]
2006	525,758
2007	472,600
2008	617,782
2009	528,622
2010	708,198

At the time of the State's acquisition of the Landfill in 2004, an estimated 10 million cubic yard expansion (i.e., a total 20 million cubic yards waste disposal site) was thought to be the airspace necessary, at projected annual fill rates in 2004, to provide sufficient capacity for the OSA term and meet the waste disposal obligation to the mills in Old Town and Lincoln for 30 years. The projected annual fill rate identified in 2004, which was used to define the estimated capacity of the Expansion at that time, however, did not account for: the closure of the Pine Tree Landfill in Hampden; changes in MEDEP Regulations such as the new construction demolition debris fuel quality standards in Chapter 418 and their effect on increasing CDD processing residue generation; the fluctuation in waste generation due to economic conditions; or the impacts of non-recurring waste streams (e.g., contaminated soil remediation from Maine's Cutler Navel Base and Brunswick Naval Air Station in 2009) accepted at JRL.

The amount and type of material accepted at JRL in 2010 reflects the first full year of closure of the Pine Tree Landfill, as Maine generated waste streams that were previously disposed at PTL through 2009 are now sent to other disposal sites - primarily JRL.[11]

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[9] The OSA was signed in February 2004; first year of operation by NEWSME was a continuation of the same waste streams that had been accepted by G-P.

[10] 2005 operations were limited to a "sludge-mixing" trial.

[11] In the Capacity Report, prepared by SPO, it's estimated conservatively that JRL would receive 700,000 tons of waste in 2010, including approximately 150,000 tons per year of Maine wastes that were previously disposed at PTL. The data from 2010 is consistent with the projection made by SPO, although about 87,500 tons of this material accepted at the JRL facility in 2010 was recycled (not disposed) material used as alternate daily cover, or beneficially used as gas transmission layer, pipe bedding, and internal road base material instead of virgin materials such as sand and gravel.

Pursuant to the OSA between the State of Maine and NEWSME, the proposed 21.9 million cubic yard Expansion is intended to meet the long-term solid waste disposal needs of the State of Maine for approximately 20 years after construction of the first cell of the Expansion is completed. The Plan and Capacity Report include projections of the needed solid waste disposal capacity in the State based on a number of assumptions about future waste generation rates. This information is presented in Section 2 of this Application.

1.3 Factors that have Influenced Current JRL Waste Disposal Rates

A review of the types and quantities of waste currently disposed of, or utilized for daily cover at, JRL highlights several factors which influence the current landfill space utilization rates at JRL. These include regulations such as the construction & demolition debris fuel quality standards in Chapter 418 and its effect on increasing CDD processing residue generation; the lack of CDD processing facilities in the greater Bangor Area leading to more unprocessed CDD requiring disposal; the impact of stringent Chapter 419 standards for agronomic utilization of biosolids; fluctuation in waste generation due to economic conditions; the impact of non-recurring waste streams (e.g., contaminated soil remediation from Maine's Cutler Navel Base and Brunswick Naval Air Station); and the closure of the Pine Tree Landfill in Hampden and the redirection of certain Maine-generated wastes from that facility to JRL. Examples of how these factors have influenced JRL waste acceptance rate include the following:

- Chapter 418 (Beneficial Use) of Maine's Solid Waste Management Rules limits the fuel substitution of secondary materials (i.e., CDD) to less than 50 percent of the total fuel (by weight) combusted on an average annual basis. In 2006, revisions to Chapter 418 imposed strict fuel quality standards for CDD wood that is used for fuel. As a result, there has been an increase in the CDD residue generated by screening to obtain acceptable CDD wood fuel that meets the criteria of Chapter 418. CWS's recent experience is that between 5 and 20 percent of the CDD processed at its KTI facility in Lewiston Maine can be converted to fuel grade wood chips. The remaining residuals are either recycled,

principally as alternate daily landfill cover (CDD fines),[12] or need to be disposed of in a landfill. At JRL, this latter material is classified as oversized bulky waste.

- The closure of the Pine Tree Landfill resulted in the redirection to JRL of in-state waste that historically went to PTL. This redirection amounts to an additional 150,000 tons per year that was not anticipated in the 2004 projected annual fill rate.[13] These materials consist primarily of unprocessed CDD and municipal solid waste incinerator residuals. The majority, approximately 62 percent, of the generators who use JRL for direct disposal of unprocessed CDD are located within a 50 mile radius of the JRL site (see Figure 4-1 in Attachment 4). All generators are located in Maine.

- In 2009, JRL managed an unanticipated delivery of 46,700 tons of contaminated fill from the Cutler Air Base as part of mandatory clean-up effort at that facility. This compares with only 7,300 tons of contaminated fill received in 2010. The six fold change in the amount of this material disposed of between 2009 and 2010 demonstrates how variable the quantity of this material, which requires disposal in a secure landfill, can be.

- In recent years there has been an increase in the amount of wastewater treatment plant sludge received at JRL due to the strict standards of Chapter 419 for agronomic utilization of these materials and due to the capacity constraints at the Hawk Ridge and Soil Preparation facilities, the State's two principal residual composting facilities, that limit the ability of these facilities to compost sludge above their contracted agreements with current customers. CWS has observed that since 1999, when the Chapter 419 agronomic utilization regulations were

[12] Certain capacity at JRL (and at other Maine landfills) is consumed by daily cover, a requirement of the MEDEP Rules, and always will be, absent a rule change. From the perspective of natural resource conservation, consistency with the State's waste management hierarchy and economics, it is far better that solid waste material be recycled for daily cover, pursuant to Chapter 409 of the Rules, than use of a virgin natural resource for daily cover. NEWSME strives to use a solid waste material for daily cover.
[13] Capacity Report, page 22.

enacted, the amount of wastewater sludges generated in the State that are directly land applied as Class B sludge has decreased from about 39 percent in 1999 to about 12 percent in 2005. This results in a greater quantity of sludge requiring disposal options versus utilization.

1.4 Factors that May Influence Future JRL Waste Disposal Rates

In addition to the above, factors that may influence future waste disposal rates at JRL include:

- Waste-to-Energy/MSW Incinerators. Approximately 33 percent of the MSW generated in the State is incinerated.[14] Maine currently has four waste-to-energy (WTE) facilities (ecomaine, MERC, MMWAC, and PERC). These WTE facilities produce several streams of materials and residuals including bypass waste, front-end process residue (FEPR), and ash that require disposal in a secure landfill. These materials and residuals represent approximately forty percent of the waste processed by these facilities. Another issue to consider about these WTE facilities is that three of the four facilities are in their 20th year of operation. Moreover, Biddeford City officials recently negotiated a clause in their Waste Handling Agreement which requires an investigation into options to close or move operations at MERC, which serves 23 municipalities. Disposal and power purchase agreements at PERC, which serves nearly 200 municipalities, will expire in 2018. Any changes in the current waste flows to the incinerators could impact the disposal rate at JRL.[15]

- Other Maine Landfills. There is a statutory ban on new and expanded commercial landfills in Maine. As the existing commercial and municipal landfills reach capacity, or if any of the currently operating generator-owned landfills close

[14] Capacity Report page 5.

[15] MERC and PERC received about 115,000 and 225,000 tons, respectively, of in-state waste in 2009. Approximately 60 percent of the tonnage accepted at the facilities is combusted. If this tonnage were redirected to JRL, it would result in an increase in the disposal requirements at JRL equal to 60 percent of the Maine-generated tonnage currently being received by MERC and PERC (i.e., the percent of the waste which is currently combusted by the facilities).

prematurely, the need for additional State-wide disposal capacity would accelerate and likely influence the need for disposal capacity at JRL.[16]

- Non-recurring Waste Streams/Other Unpredictable Factors. Future non-recurring waste streams like the contaminated soil remediation from Maine's Cutler Naval Base in 2009.

- Natural or manmade disasters (i.e., hurricanes, tornados, floods, ice storms, or oil spills) These events would generate large amounts of CDD or special wastes that could significantly increase the disposal rate at JRL as a result of clean-up, and reconstruction activities in Maine.

- Future Economic Conditions. There is a well-documented correlation between economic activity and the generation of waste requiring disposal. Future economic conditions will influence the waste disposal rate at JRL.[17]

- Changes in Technology. Ongoing improvements to the efficiency of landfill operations such as compaction techniques, use of different types and systems of daily and intermediate cover, will affect the rate between the amount of waste received and the consumption of landfill airspace at JRL.

- Changes in Policy, Law, or Regulation. Under Maine's Solid Waste Management hierarchy, landfilling is the least desirable solid waste management option. All other solid waste management options should be considered and exercised to the greatest extent practicable prior to landfilling. Any changes to the hierarchy

[16] The 125th Legislature addressed two proposals to expand or develop other landfill sites. One bill, which is now law, authorizes the State to acquire the Dolby Landfill to facilitate a potential sale of the Katahdin paper mills. Dolby has limited remaining licensed capacity, limited potential unlicensed vertical capacity, and contamination issues that would need to be addressed before any additional capacity could be licensed. Dolby is not licensed to accept wastes other than from the Katahdin mills. Another bill, which has been carried over to the next legislative session, proposes to lift the statutory commercial landfill ban to allow for a potential horizontal expansion at only one landfill, the Crossroads landfill in Norridgewock.

[17] See Appendix D of the Capacity Report.

or to any of the laws and regulations governing disposal facility development, or the waste streams they govern, have the potential to impact future disposal at JRL.

- Compaction and Settling Rates in the Landfill. The overall in-place waste density and long-term settlement rates in the landfill will impact the remaining landfill capacity at any point in time.

1.5 Description of Maine Municipalities that Use the JRL

Table 1-3 lists the Maine municipalities and the counties that currently utilize JRL directly (e.g., transfer station or waste water treatment plant) or indirectly (e.g., uses a Maine municipal solid waste incinerator or a construction and demolition debris wood processor that disposes its residue at JRL). Municipalities in all Maine counties utilize JRL: therefore, JRL serves and will continue to serve the entire State of Maine by providing a low cost, environmentally, and economically competitive option for Maine solid waste disposal needs well into the future. As discussed in Section 4.0, many of the generators who directly disposed wastes at JRL are located within 50 miles of the Facility (based on 2010 waste receipt data).

TABLE 1-3

SOURCES OF WASTE STREAMS BEING ACCEPTED AT JRL

Androscoggin	Aroostook	Cumberland	Franklin	Hancock	Kennebec
Auburn	Amity	Brunswick	Eustis	Amherst	Albion
Durham	Bancroft	Chebeague Island	Farmington	Aurora	Augusta
Greene	Benedicta Twp	Cundys Habor		Bar Harbor	Belgrade
Lewiston	Crystal	Freeport		Blue Hill	Benton
Lisbon	Dyer Brook	Frye Island		Brooklin	Chelsea
Lisbon Falls	Easton	Gorham		Brooksville	China
Sabattus	Fort Fairfield	Harpswell		Bucksport	Clinton
	Frenchville	Long Island		Castine	Gardiner
	Hammond	Portland		Cranberry Isles	Hallowell
	Haynesville	Scarborough		Dedham	Kents Hill
	Hersey	Sebago		Deer Isle	Litchfield
	Houlton	South Portland		Eastbrook	Monmouth
	Island Falls	Westbrook		Ellsworth	Mount Vernon
	Macwahoc Plt			Franklin	Oakland
	Mars Hill			Frenchboro	Pittston
	Merrill			Great Pond	Randolph
	Moro Plt			Gouldsboro	Readfield
	New Limerick			Hancock	Sidney
	Oakfield			Lamoine	Vassalboro
	Reed Plt			Mariaville	Waterville
	Sherman			Mount Desert	West Gardiner
	Smyrna			Orland	Windsor
	Weston			Osborn	Winslow
				Otis	Winthrop
				Penobscot	
				Prospect Harbor	
				Sedgwick	
				Sorrento	
				Southwest Harbor	
				Stonington	
				Swans Island	
				Sullivan	
				Surry	
				Tremont	
				Trenton	
				Verona	
				Waltham	
				Winter Harbor	

TABLE 1-3 (cont'd)

Knox	Lincoln	Oxford	Penobscot	Penobscot (cont'd)	Piscataquis
Appleton	Alna	Bethel	Alton	Millinocket	Abbot
Camden	Boothbay Harbor	Denmark	Argyle Twp	Mount Chase	Atkinson
Cushing	Bremen	Greenwood	Bangor	Newburgh	Barnard Twp
Friendship	Bristol	Newry	Bradford	Newport	Bowerbank
Hope	Damriscotta	Upton	Bradley	Old Town	Brownville
Owls Head	Dresden	West Paris	Brewer	Orono	Dover-Foxcroft
Rockland	East Boothbay	Woodstock	Burlington	Orrington	Guilford
Rockport	Edgecomb		Carmel	Passadumkeag	Medford
South Thomaston	Jefferson		Charleston	Patten	Milo
Thomaston	Monhegan Island Plt		Chester	Penobscot County (unorganized)	Monson
Union	Newcastle		Clifton	Penobscot	Parkman
Warren	Nobleboro		Corinna	Plymouth	Piscataquis County (unorganized)
Washington	Somerville		Corinth	Springfield	Pleasant River
	Southport		Dexter	Stacyville	Sangerville
	Waldoboro		Drew Plt	Stetson	Sebec
	Westport Island		Dixmont	Veazie	Willimantic
	Whitefield		East Millinocket	Winn	
	Wiscasset		Eddington	Woodville	
			Edinburg		
			Enfield		
			Etna		
			Exeter		
			Garland		
			Glenburn		
			Greenbush		
			Greenfield Twp		
			Hampden		
			Hermon		
			Holden		
			Howland		
			Hudson		
			Indian Island		
			Kenduskeag		
			Lagrange		
			Lee		
			Levant		
			Lincoln		
			Lowell		
			Mattawamkeag		
			Maxfield		
			Medway		
			Milford		

TABLE 1-3 (cont'd)

Somerset	Sagadahoc	Waldo	Washington	York
Bingham	Arrowsic	Belfast	Addison	Acton
Cannan	Bath	Belmont	Alexander	Alfred
Detroit	Bowdoin	Brooks	Baileyville	Arundel
Fairfield	Bowdoinham	Burnham	Beals	Biddeford
Harmony	Georgetown	Frankfort	Beddington	Buxton
Jackman	Phippsburgh	Freedom	Calais	Cornish
Madison	Richmond	Jackson	Centerville Twp	Dayton
Norridgewock	Topsham	Knox	Cherryfield	Eliot
Palmyra	West Bath	Liberty	Codyville Plt	Kennebunk
Pittsfield	Woolwich	Lincolnville	Columbia	Kennebunkport
Ripley		Monroe	Columbia Falls	Limerick
Skowhegan		Montville	Crawford	Newfield
Saint Albans		Morrill	Deblois	North Berwick
		Northport	Eastport	Old Orchard Beach
		Palermo	Grand Lake Stream Plt	Sanford
		Prospect	Harrington	Shapleigh
		Searsmont	Jonesboro	South Berwick
		Searsport	Jonesport	Wells
		Stockton Springs	Machias	
		Swanville	Marshfield	
		Thorndike	Milbridge	
		Unity	Roque Bluffs	
		Waldo	Steuben	
		Winterport	Talmadge	
			Topsfield	
			Waite	
			Whitneyville	

As demonstrated by the above tables, the JRL Expansion will serve the entire State of Maine by providing a low cost option for the solid waste disposal needs of the State well into the future.

1.6 Current Juniper Ridge Landfill Capacity

The permitted capacity available at the JRL as of December 31, 2010 was approximately 6,565,700 cubic yards. Approximately 885,000 cubic yards of this capacity is associated with the development of a mechanically-stabilized earthen berm (MSEB) along the western and southwestern portions of the Landfill's footprint, and an enlarged earthen berm along the northern and eastern sides of the landfill. The MSEB and earthen berm were required to provide the desired Landfill capacity for the facility's 2004 vertical increase amendment. Because the development of the Expansion will overlay the northern and eastern waste

sideslopes of the current facility, the enlarged earthen berm and MSEB berm have not been constructed to date as part of the current landfill development. The need for future construction of these berms will be re-evaluated after the PBD approval is obtained. If the decision is not to develop these berms, the date by which additional capacity will need to be developed at the site moves up approximately one year.

In SPO's Capacity Report, the lifespan of existing state-wide disposal capacity was analyzed using three different scenarios (zero growth, 1 percent growth, and 2.8 percent growth) over a 10-year period between 2010 and 2020. The SPO concluded that use of the most conservative projected increases in waste generation (0-1% growth) would only extend the life of Maine's existing State-owned and commercial landfills by one to two years. At the projected fill rates used by the SPO for JRL,[18] the current licensed capacity at JRL will be consumed by 2017 or 2018 as outlined in the Capacity Report.[19] This projection is consistent with the projections that were contained in the Plan of 10 to 12 years from the end of 2007.[20] As noted above, not building the MSEB would reduce the landfill life by about one year.[21]

1.7 General Project Description

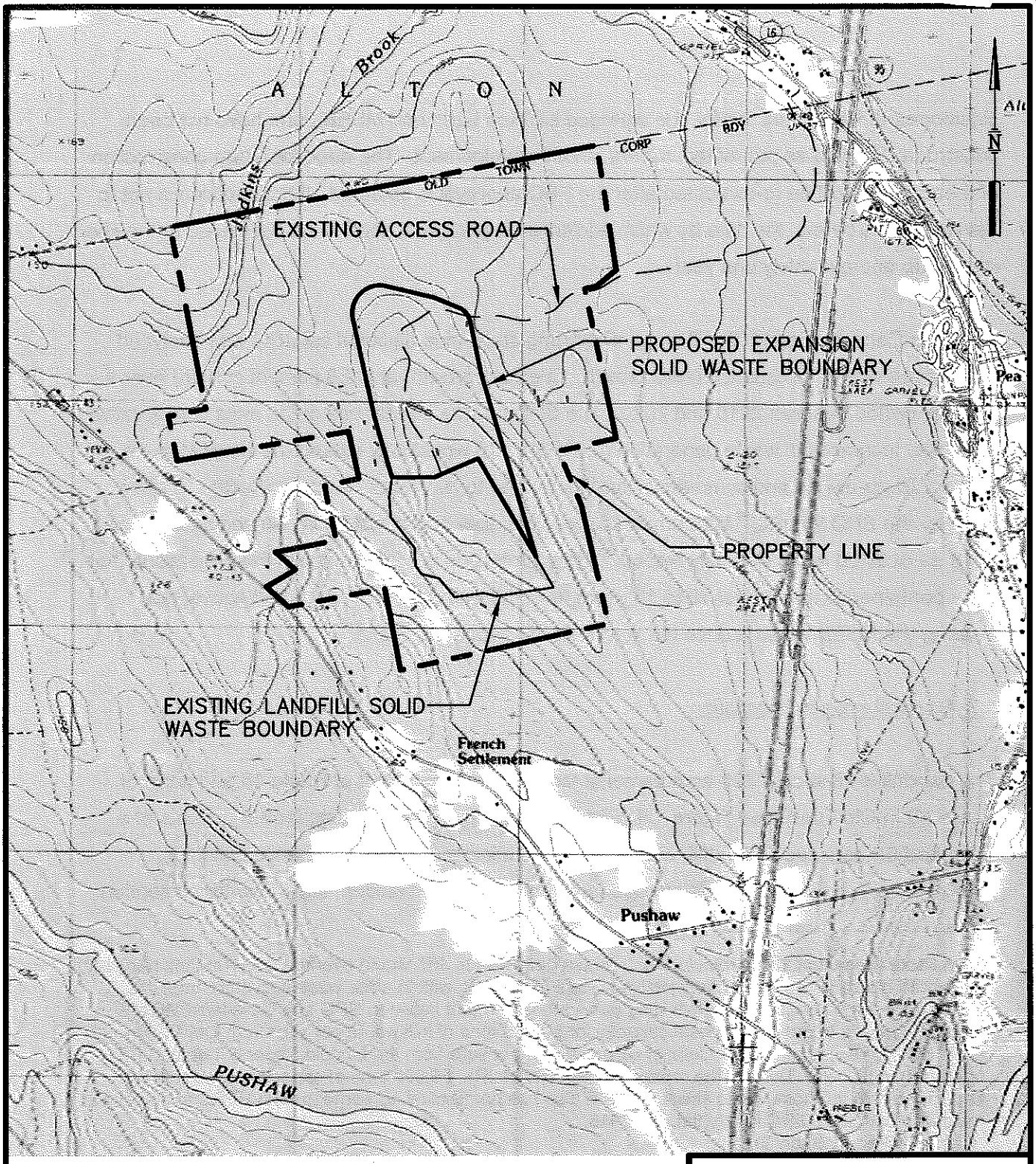
The Landfill is sited on a 780-acre parcel of land located southwest of Route 16 and north of Route 43 in Old Town (see Figure 1-1, Site Location Plan). The existing facility consists of a permitted 68-acre secure landfill, with an administration building, maintenance buildings, leachate storage pond, leachate storage tank, leachate pump station, sedimentation/detention

[18] The State Planning Office projected that wastes delivered to JRL would average 550,000 tons per year, but would increase to 700,000 tons per year starting in 2010, with in-state wastes diverted from the closed Pine Tree Landfill. The Operating Services Agreement between SPO and Casella/NEWSME requires Casella to provide disposal capacity for 50,000 tons of mill waste per year from Old Town Fuel and Fiber (OTFF) and for 6,000 tons of Biomass Ash per year from the Lincoln Paper & Tissue (LPT) operation in Lincoln. Thus, of the remaining capacity at JRL, 56,000 tons of capacity per year is to be kept in reserve for those waste streams. CWS also has contractual agreements with PERC to dispose of residuals from the PERC facility through 2018.

[19] Capacity Report, page 31.

[20] Plan – pages 19-20.

[21] Construction of the first expansion cell will take approximately 1 construction season. Therefore, to avoid disruption to existing customers utilizing JRL, all permitting should be completed in 2015 and construction should begin in 2016.



NOTE:

BASE MAP ADAPTED FROM 7.5 MIN
USGS TOPOGRAPHIC QUADRANGLE
OLD TOWN, MAINE–1988

1000 0 2000 4000 FEET

DWG: SITELOC LMN: SITELOC CTB: SITELOC REV: 7/18/11

FIGURE 1–1
SITE LOCATION
PUBLIC BENEFIT DETERMINATION
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL · CIVIL · GEOTECHNICAL · WATER · COMPLIANCE

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ponds, landfill gas flare, and access roads. The site also includes a permitted till borrow pit and clean woodwaste storage facility. The Landfill was previously licensed by MEDEP under the Maine Hazardous Waste, Septage and Solid Waste Management Act and Natural Resources Protection Act (MEDEP Permit #S-20700-7A-A-N). Following transfer of the Landfill license to SPO in 2003, that license was amended in 2004 (MEDEP Permit #S-20700-WD-N-A). The U.S. Army Corps of Engineers (Corps) has issued a permit for impacts to wetlands on the property under Section 404 of the Clean Water Act (Corps Permit #1991-01909). In addition, the JRL has received an Air Emission License from the MEDEP Bureau of Air Quality (#A-921-70-A-I) and numerous site permits from the City of Old Town Planning Board, including a till borrow pit, an above-ground leachate storage tank, an administration building, maintenance buildings and a scale house.

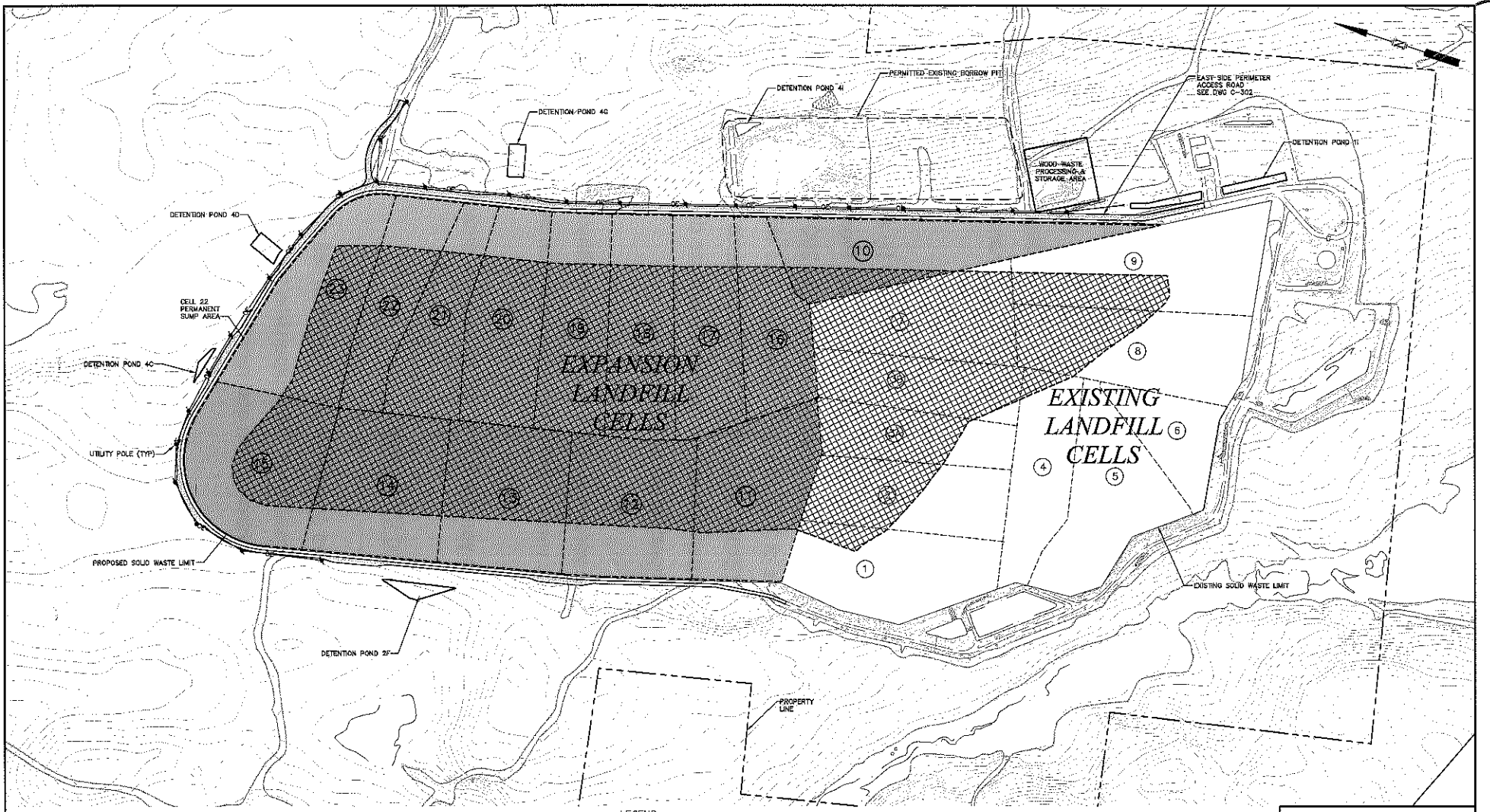
The Expansion Project will increase the solid waste footprint of the Landfill by approximately 108 acres (from 68 acres to 176 acres) (see Figure 1-2, Site Development Plan). The Expansion will not exceed the facility's current permitted peak elevation of 390 feet-Mean Sea Level (ft-MSL) or exterior sideslope grades of 3 horizontal to 1 vertical. The waste disposal capacity of the facility will increase from approximately 10,000,000 cubic yards to approximately 32,000,000 cubic yards. The proposed Expansion will be developed in three distinct phases with disposal capacities[22] and projected operating life of the following:

- Phase I – 5.45 million cubic yards = 4,687,000 tons (approximately 5 to 7 years)
- Phase II – 9.35 million cubic yards = 8,041,000 tons (approximately 8 to 11 years)
- Phase III – 7.08 million cubic yards = 6,089,000 tons (approximately 7 to 9 years)

1.8 Description of the Expansion Phases and Capacities

The Expansion has been designed for phased operations with individual cell size based upon an estimate of the facility's future waste disposal rates. The Expansion's phased operations will sequence waste and cover placement and control run-on and runoff in accordance with the

[22] The conversion of cubic yards to tons assumes an inplace waste density of 0.86 tons per cubic yard.



NOTES

1. BASE MAP PREPARED BY AERIAL SURVEY & PHOTO, NORRIDGEWOCK, MAINE. PHOTO DATE OCTOBER 31, 2008. VERTICAL DATUM BRASS PLUG AT PUMP STATION. HORIZONTAL DATUM MAINE STATE COORDINATE SYSTEM EAST ZONE, NAD 83. GROUND CONTROL BY PLISGA & DAY, BANGOR, MAINE. STANDARD PRACTICE DICTATES THAT PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
2. PROPERTY LINE LOCATIONS ARE A RESULT OF FIELD SURVEY PERFORMED BY HERRICK AND SALISBURY, INC. LAND SURVEYORS, ELLSWORTH, MAINE FOR TRYTON TREE FARM PROJECT, PATTEN CORPORATION–DOWNEAST, OLD TOWN, MAINE, FEBRUARY 23, 1988, REVISED APRIL 7, 1988.

100 0 200 400 FEET

LEGEND

(10) CELL DESIGNATION FOR EXPANSION CELLS

PHASE I (CELLS 10–15)

PHASE II (CELLS 16–23)

PHASE III (CELLS 24–30)

PHASE III CELL BOUNDARIES ARE NOT SHOWN FOR CLARITY.

FIGURE 1–2
PROPOSED SITE DEVELOPMENT
PUBLIC BENEFIT DETERMINATION
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL · CIVIL · GEOTECHNICAL · WATER · COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

DWG: C-102BaseGrading LMN: FIG 1-2-2 CTB:C-102BaseGrading REV: 8/9/11

W:\eservice\Classified\Old Town\Landfill\Public Benefit Determination\Acad\Figures\C-102BaseGrading.dwg, 8/9/2011 2:13:13 PM, pat

facility's Stormwater Management Plan, manage leachate generation, minimize noise impacts along Route 43, protect the liner system, and maintain stability.

The Expansion will be developed in a phased fashion over its life span. New landfill cells will be built as needed. Each of the three phases will consist of a number of individual cells. It is anticipated that a new cell will be constructed every year.

The first phase to be developed (Phase I) is located on the northeast end of the existing landfill and along the western side of the Expansion's footprint (see Figure 1-2). This area will be developed as six base cells (i.e., Cells 10 through 15), will occupy approximately 52.4 acres and provide approximately 5.45 million cubic yards of capacity. Cell 10 will incorporate a temporary pump station that will discharge to the leachate storage tank. Cells 11 through 15 will be developed in a south to north direction along the western side of the Expansion's footprint and will include both temporary and permanent leachate collection sump and pump stations. Development of the western portions of the Expansion prior to the eastern portions of the Expansion has been recommended by the project's noise consultant to reduce noise impacts along Route 43.

Phase II will be developed along the eastern side of the Expansion's footprint. Phase II will consist of eight base cells (i.e., Cells 16 through 23), will occupy approximately 55.2 acres and provide approximately 9.35 million cubic yards of capacity (see Figure 1-2). Phase II will utilize both temporary and permanent sump and pump leachate collection/leachate transport systems.

Phase III of the Expansion will be developed on top of the Phase I and II base cells described above. Phase III will consist of eight cells (Cells 24 – 31), will occupy approximately 98 acres (including the area overlying the existing landfill) and provide approximately 7.08 million cubic yards of capacity. Leachate generated by Phase III landfilling will be collected and transported by either the Phase I or the Phase II leachate collection/transport systems described above. Landfilling in Phase III will continue until the final grades of the Expansion are reached. The Expansion will be developed to a maximum final grade of 390 ft-MSL with 3 horizontal to 1 vertical sideslopes. This final elevation is equal to the maximum licensed elevation of the existing landfill facility.

Portions of the Expansion will abut and overlie the north and east slopes of the existing landfill. Prior to waste placement in this area, the existing intermediate cover will be removed. The Expansion will provide disposal capacity for approximately 21.9 million cubic yards of waste. Wastes to be disposed primarily consist of construction and demolition debris, front-end process residue, municipal solid waste ash, wood biomass ash, wastewater treatment plant sludge, contaminated soil, oversized bulky waste, and municipal solid waste bypass.

1.9 Project Permitting Approach

This Public Benefit Determination Application will be for the entire Expansion project.[23] SPO and CWS understand that MEDEP approval might have a condition requiring that additional information be submitted approximately two years prior to development of the second and third phases of the project to confirm that the information used to support the findings underlying a Public Benefit Determination approval remain valid and applicable to the Public Benefits standards at that time.

An application to the Department will be submitted and reviewed for the entire Expansion Project (i.e., Phases I, II, and III) for compliance with the Solid Waste Management Rules.

[23] The Solid Waste Act in Section 1310-AA(6) doesn't allow MEDEP to consider an application for the full expansion unless it (the full expansion) first receives a Public Benefit Determination.